Celestial-Bodies-Database-PostgresSQL

1. Create Database and Connect

psql --username=freecodecamp --dbname=postgres;

CREATE DATABASE universe;

\c universe

1. Creating Tables as required conditions

```
CREATE TABLE galaxy (
galaxy_id SERIAL NOT NULL,
star_id INTEGER  NOT NULL,
name VARCHAR(20) UNIQUE NOT NULL,
area INTEGER,
description INTEGER,
age NUMERIC,
material TEXT,
has_life BOOLEAN,
has_water BOOLEAN
);


CREATE TABLE star (
star_id SERIAL NOT NULL,
galaxy_id INTEGER NOT NULL,
planet_id INTEGER NOT NULL,
name VARCHAR(20) UNIQUE NOT NULL,
area INTEGER,
volume INTEGER,
age NUMERIC,
description TEXT,
```

```
has_life BOOLEAN,
has_water BOOLEAN
);

CREATE TABLE planet (
planet_id SERIAL NOT NULL,
star_id INTEGER  NOT NULL,
moon_id INTEGER  NOT NULL,
name VARCHAR(20) UNIQUE NOT NULL,
area INTEGER,
volume INTEGER,
age NUMERIC,
description TEXT,
has_life BOOLEAN,
has_water BOOLEAN
);

CREATE TABLE moon (
moon_id SERIAL NOT NULL,
planet_id INTEGER NOT NULL,
name VARCHAR(20) UNIQUE NOT NULL,
area INTEGER,
volume INTEGER,
age NUMERIC,
description TEXT,
has_life BOOLEAN,
has_water BOOLEAN
);

CREATE TABLE more_info (
more_info_id SERIAL NOT NULL,
object_id INTEGER,
name VARCHAR(20) UNIQUE NOT NULL,
```

```
    description TEXT
    );
```

3. Fill the tables as required

```
INSERT INTO galaxy VALUES
(1, 1, 'galaxy1', 500, 750, 1500.75, 'solid', true, true),
(2, 2, 'galaxy2', 500, 750, 1500.75, 'solid', true, true),
(3, 3, 'galaxy3', 500, 750, 1500.75, 'solid', true, true),
(4, 4, 'galaxy4', 500, 750, 1500.75, 'solid', true, true),
(5, 5, 'galaxy5', 500, 750, 1500.75, 'solid', true, true),
(6, 6, 'galaxy6', 500, 750, 1500.75, 'solid', true, true);
```

```
INSERT INTO star VALUES
(1, 1, 1, 'star1', 500, 750, 1500.75, 'solid', true, true),
(2, 2, 2, 'star2', 500, 750, 1500.75, 'solid', true, true),
(3, 3, 3, 'star3', 500, 750, 1500.75, 'solid', true, true),
(4, 4, 4, 'star4', 500, 750, 1500.75, 'solid', true, true),
(5, 5, 5, 'star5', 500, 750, 1500.75, 'solid', true, true),
(6, 6, 6, 'star6', 500, 750, 1500.75, 'solid', true, true);
```

```
INSERT INTO planet VALUES
(1,  1,  1, 'planet1', 500, 750, 1500.75, 'solid', true, true),
(2,  2,  2, 'planet2', 500, 750, 1500.75, 'solid', true, true),
(3,  3,  3, 'planet3', 500, 750, 1500.75, 'solid', true, true),
(4,  4,  4, 'planet4', 500, 750, 1500.75, 'solid', true, true),
(5,  5,  5, 'planet5', 500, 750, 1500.75, 'solid', true, true),
(6,  6,  6, 'planet6', 500, 750, 1500.75, 'solid', true, true),
(7,  6,  7, 'planet7', 500, 750, 1500.75, 'solid', true, true),
(8,  6,  8, 'planet8', 500, 750, 1500.75, 'solid', true, true),
(9,  6,  9, 'planet9', 500, 750, 1500.75, 'solid', true, true),
(10, 6, 10, 'planet10', 500, 750, 1500.75, 'solid', true, true),
(11, 6, 11, 'planet11', 500, 750, 1500.75, 'solid', true, true),
(12, 6, 12, 'planet12', 500, 750, 1500.75, 'solid', true, true);
```

```
INSERT INTO moon VALUES
(1,   1, 'moon1', 500, 750, 1500.75, 'solid', true, true),
(2,   2, 'moon2', 500, 750, 1500.75, 'solid', true, true),
(3,   3, 'moon3', 500, 750, 1500.75, 'solid', true, true),
(4,   4, 'moon4', 500, 750, 1500.75, 'solid', true, true),
(5,   5, 'moon5', 500, 750, 1500.75, 'solid', true, true),
(6,   6, 'moon6', 500, 750, 1500.75, 'solid', true, true),
(7,   7, 'moon7', 500, 750, 1500.75, 'solid', true, true),
(8,   8, 'moon8', 500, 750, 1500.75, 'solid', true, true),
(9,   9, 'moon9', 500, 750, 1500.75, 'solid', true, true),
(10, 10, 'moon10', 500, 750, 1500.75, 'solid', true, true),
(11, 11, 'moon11', 500, 750, 1500.75, 'solid', true, true),
(12, 11, 'moon12', 500, 750, 1500.75, 'solid', true, true),
(13, 11, 'moon13', 500, 750, 1500.75, 'solid', true, true),
(14, 11, 'moon14', 500, 750, 1500.75, 'solid', true, true),
(15, 11, 'moon15', 500, 750, 1500.75, 'solid', true, true),
(16, 11, 'moon16', 500, 750, 1500.75, 'solid', true, true),
(17, 11, 'moon17', 500, 750, 1500.75, 'solid', true, true),
(18, 11, 'moon18', 500, 750, 1500.75, 'solid', true, true),
(19, 11, 'moon19', 500, 750, 1500.75, 'solid', true, true),
(20, 11, 'moon20', 500, 750, 1500.75, 'solid', true, true);

INSERT INTO more_info VALUES
(1, 1, 'info1', 'info'),
(2, 2, 'info2', info''),
(3, 3, 'info3', 'info'),
(4, 4, 'info4', 'info'),
(5, 5, 'info5', 'info');
```

4. Primary Key and Foreign Key assign

```
ALTER TABLE galaxy    ADD PRIMARY KEY (galaxy_id)
ALTER TABLE star      ADD PRIMARY KEY (star_id)
```

ALTER TABLE planet ADD PRIMARY KEY (planet_id)
ALTER TABLE moon ADD PRIMARY KEY (moon_id)
ALTER TABLE more_info ADD PRIMARY KEY (more_info_id)

Foreign key

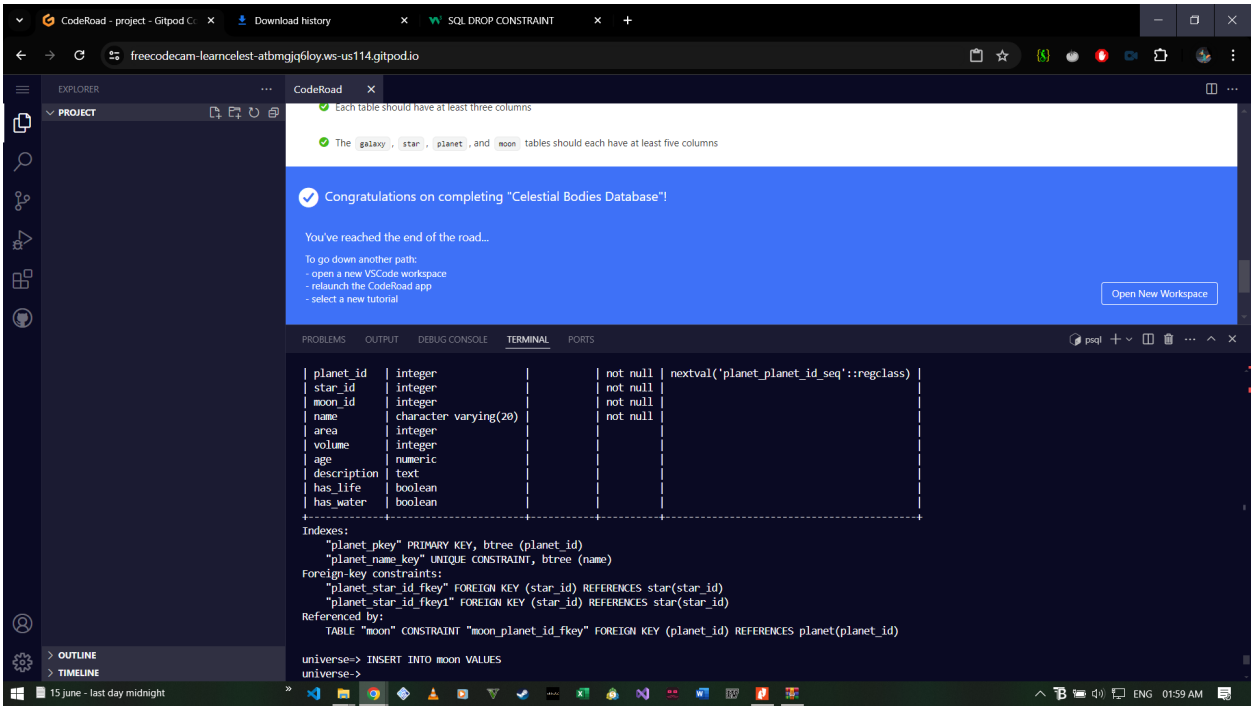
Each "star" should have a foreign key that references one of the rows in `galaxy`

ALTER TABLE galaxy ADD FOREIGN KEY (star_id) REFERENCES star (star_id)
ALTER TABLE star ADD FOREIGN KEY (galaxy_id) REFERENCES galaxy (galaxy_id)

```
universe=> ALTER TABLE star ADD FOREIGN KEY (galaxy_id) REFERENCES galaxy(galaxy_id);
ALTER TABLE
universe=> \d star
                                    Table "public.star"
+-------------+-----------------------+-----------+----------+-----------------------------------+
|   Column    |         Type          | Collation | Nullable |              Default              |
+-------------+-----------------------+-----------+----------+-----------------------------------+
| star_id     | integer               |           | not null | nextval('star_star_id_seq'::regclass) |
| galaxy_id   | integer               |           | not null |                                   |
| planet_id   | integer               |           | not null |                                   |
| name        | character varying(20) |           | not null |                                   |
| area        | integer               |           |          |                                   |
| volume      | integer               |           |          |                                   |
| age         | numeric               |           |          |                                   |
| description | text                  |           |          |                                   |
| has_life    | boolean               |           |          |                                   |
| has_water   | boolean               |           |          |                                   |
+-------------+-----------------------+-----------+----------+-----------------------------------+
Indexes:
    "star_pkey" PRIMARY KEY, btree (star_id)
    "star_name_key" UNIQUE CONSTRAINT, btree (name)
Foreign-key constraints:
    "star_galaxy_id_fkey" FOREIGN KEY (galaxy_id) REFERENCES galaxy(galaxy_id)
```

ALTER TABLE star ADD FOREIGN KEY (planet_id) REFERENCES planet (planet_id)
ALTER TABLE planet ADD FOREIGN KEY (star_id) REFERENCES star (star_id)

```
ALTER TABLE star   ADD FOREIGN KEY (planet_id) REFERENCES planet (planet_id)
ALTER TABLE planet ADD FOREIGN KEY (star_id)   REFERENCES star   (star_id)
```



5. Compact Sql db queries into universe.sql file

   universe.sql